SEQUENCE LISTING

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<120> Contulakin-G, Analogs Thereof and Uses Therefor

<130> 2314-243

<150> US 09/420,797
<151> 1999-10-19

<150> US 60/130,661
<151> 1999-04-23

<150> US 60/128,561
<151> 1999-04-09

<150> US 60/105,015
<151> 1998-10-20

<160> 13

<170> PatentIn Ver. 2.0

<210> 1
<211> 16
<212> PRT
<213> Conus geographus

<220>
<221> PEPTIDE
<222> (1)..(13)
<223> Xaa at residue 1 is pyro-Glu; Xaa at residue 13 is Pro or hydroxy-Pro; Thr at residue 10 is modified to contain an O-glycan.

<400> 1
Xaa Ser Glu Glu Gly Gly Ser Asn Ala Thr Lys Lys Xaa Tyr Ile Leu
1 5 10 15

<210> 2
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Generic Contulakin-G formula

<220>
<221> PEPTIDE
<222> (1)..(8)
<223> Xaa at residue 1 is pyro-Glu, Glu, Gln or gamma-carboxy-Glu; Xaa at residues 2 and 7 is Ser, Thr, or S-glycan modified Cys; Xaa at residues 3 and 4 is Glu or gamma-carboxy-Glu; Xaa at residue

<220>
<221> PEPTIDE
<222> (8)..(10)
<223> 8 is Asn, N-glycan modified Asn or S-modified Cys; Xaa at residue 9 is Ala or Gly; Xaa at residue 10 is Thr, Ser, S-glycan modified Cys, Tyr or unnatural hydroxy containing amino acid.

<220>
<221> PEPTIDE
<222> (11)..(12)
<223> Xaa at residue 11 is Lys, N-methyl-Lys, N,N-dimethyl Lys, N,N,N-trimethyl Lys, Arg, ornithine, homo-Arg, or any unnatural basic amino acid; Xaa at residue 12 is Ala, Gly, Lys,

<220>
<221> PEPTIDE
<222> (12)
<223> N-methyl-Lys, N,N-dimethyl Lys, N,N,N-trimethyl Lys, Arg, ornithine, homo-Arg, any unnatural basic amino acid or X-Lys, X is $(CH_2)_n$, phenyl, $-(CH_2)_m-(CH=CH)-(CH_2)_mH$ or $-(CH_2)_m-(CC)-(CH_2)_mH$,

<220>
<221> PEPTIDE
<222> (12)..(14)
<223> in which n is 1-4 and m is 0-2; Xaa 13 is Pro or hydroxy-Pro; Xaa at residue 14 is Tyr, mono-iodo-Tyr, di-iodo-Tyr, O-sulpho-Tyr, O-phospho-Tyr, nitro-Tyr, Trp, D-Trp, halo-Trp,

<220>
<221> PEPTIDE
<222> (14)
<223> halo-D-Trp, Phe, L-neo-Trp or unnatural aromatic amino acid, halo is Br or Cl.

<400> 2
Xaa Xaa Xaa Xaa Gly Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ile Leu
1 5 10 15

<210> 3
<211> 17
<212> DNA
<213> Conus geographus

<220>
<221> misc_feature
<222> (1)..(17)
<223> n is any nucleotide

<400> 3
atratnggyt tyttngt 17

<210> 4
<211> 15
<212> PRT
<213> Conus geographus

<220>
<221> PEPTIDE
<222> (9)
<223> Xaa at residue 9 is unknown

<400> 4
Ser Glu Glu Gly Gly Ser Asn Ala Xaa Lys Lys Pro Tyr Ile Leu
1 5 10 15

<210> 5
<211> 231
<212> DNA
<213> Conus geographus

<220>
<221> CDS
<222> (1)..(228)

<400> 5
atg cag acg gcc tac tgg gtg atg gtg atg atg atg gtg tgg att gca 48
Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Trp Ile Ala
1 5 10 15

gcc cct ctg tct gaa ggt ggt aaa ctg aac gat gta att cgg ggt ttg 96
Ala Pro Leu Ser Glu Gly Gly Lys Leu Asn Asp Val Ile Arg Gly Leu
20 25 30

gtg cca gac gac ata acc cca cag ctc atg ttg gga agt ctg att tcc 144
Val Pro Asp Asp Ile Thr Pro Gln Leu Met Leu Gly Ser Leu Ile Ser
35 40 45

cgt cgt caa tcg gaa gag ggt ggt tca aat gca acc aag aaa ccc tat 192
Arg Arg Gln Ser Glu Glu Gly Gly Ser Asn Ala Thr Lys Lys Pro Tyr
50 55 60

att cta agg gcc agc gac cag gtt gca tct ggg cca tag 231
Ile Leu Arg Ala Ser Asp Gln Val Ala Ser Gly Pro
65 70 75

<210> 6
<211> 76
<212> PRT
<213> Conus geographus

<400> 6
Met Gln Thr Ala Tyr Trp Val Met Val Met Met Met Val Trp Ile Ala
1 5 10 15

Ala Pro Leu Ser Glu Gly Gly Lys Leu Asn Asp Val Ile Arg Gly Leu
20 25 30

Val Pro Asp Asp Ile Thr Pro Gln Leu Met Leu Gly Ser Leu Ile Ser
35 40 45

Arg Arg Gln Ser Glu Glu Gly Gly Ser Asn Ala Thr Lys Lys Pro Tyr
50 55 60

Ile Leu Arg Ala Ser Asp Gln Val Ala Ser Gly Pro
65 70 75

<210> 7
<211> 16
<212> PRT
<213> Conus geographus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> Xaa at residue 1 is pyro-Glu; Thr at residue 10 contains an O-glycan.

<400> 7
Xaa Ser Glu Glu Gly Gly Glu Asn Ala Thr Lys Lys Pro Tyr Ile Leu
1 5 10 15

<210> 8
<211> 13
<212> PRT
<213> Bos sp.

<220>
<221> PEPTIDE
<222> (1)
<223> Xaa at residue 1 is pyro-Glu.

<400> 8
Xaa Leu Tyr Glu Asn Lys Pro Arg Arg Pro Tyr Ile Leu
1 5 10

<210> 9
<211> 6
<212> PRT
<213> porcine

<400> 9
Lys Ile Pro Tyr Ile Leu
1 5

<210> 10
<211> 8
<212> PRT
<213> Xenopus laevis

<400> 10
Gln Gly Lys Arg Pro Trp Ile Leu
1 5

<210> 11
<211> 25
<212> PRT
<213> Homo sapiens

<400> 11
Met Leu Thr Lys Phe Glu Thr Lys Ser Ala Arg Val Lys Gly Leu Ser
1 5 10 15

Phe His Pro Lys Arg Pro Trp Ile Leu
20 25

<210> 12
<211> 17
<212> PRT
<213> Vespula maculifrons

<400> 12
Thr Ala Thr Thr Arg Arg Arg Gly Arg Pro Pro Gly Phe Ser Pro Phe
1 5 10 15

Arg

<210> 13
<211> 9
<212> PRT
<213> Homo sapiens

<400> 13
Arg Pro Pro Gly Phe Ser Pro Phe Arg
1 5